

CLAIMS:

What is claimed is:

1. A method for accessing I/O devices in embedded control environments, the method comprising:
remotely attaching said I/O devices to an embedded microprocessor; and
mapping said I/O devices resources to said microprocessor's address or memory address space.
2. The method according to claim 1 further comprising selecting said I/O devices from the group consisting of Universal Asynchronous Receiver/Transmitter (UART), Universal Serial Bus (USB), Joint Test Action Group (JTAG), and IC Bus (I²C).
3. The method according to claim 1 wherein said mapping step is performed by a device abstraction layer (DAL).
4. The method according to claim 3 wherein said DAL is implemented via extra embedded control hardware.
5. The method according to claim 3 wherein said DAL is implemented via software.
6. The method according to claim 4 further comprising redirecting by said extra embedded control hardware, requests and responses over a link to a remotely attached device.
7. The method according to claim 5 wherein said microprocessor has a memory management unit, and further comprises said DAL using said memory management unit to cause a program exception by an exception handler.

8. The method according to claim 7 further comprising executing with a thin layer device provided in the context of said exception handler.

9. The method according to claim 7 further comprising generating an exception during instruction execution upon accessing a virtual resource unit.

10. The method according to claim 9 wherein said microprocessor has a management unit, and further comprises generating with the management unit, an exception upon execution of a privileged instruction.

11. A computer system for accessing I/O devices in embedded control environments, said I/O devices being remotely attached to an embedded microprocessor, said system comprising a device mapping said I/O devices' resources to said microprocessor's address or memory address space.

12. The computer system according to claim 11 wherein said device is a device abstraction layer (DAL).

13. The computer system according to claim 12 wherein said DAL is implemented via extra embedded control hardware.

14. The computer system according to claim 12 wherein said DAL is implemented via software.

15. The computer system according to claim 14 further comprising resources available to said DAL, and wherein said software is adapted to cause a program exception as soon as said resources are accessed.

16. The computer system according to claim 15 further comprising a thin layer device abstraction causing said program exception.

17. A program product for accessing I/O devices in embedded control environments, said I/O devices being remotely attached to an embedded microprocessor, said program product comprising:

a computer readable medium having recorded thereon computer readable program code performing the method comprising:

mapping said I/O devices resources to said microprocessor's address or memory address space.

18. The program product according to claim 17 wherein said method further comprises selecting said I/O devices from the group consisting of Universal Asynchronous Receiver/Transmitter (UART), Universal Serial Bus (USB), Joint Test Action Group (JTAG), and IC Bus (I²C).

19. The program product according to claim 17 wherein said mapping step of said method is performed by a device abstraction layer (DAL).

20. The program product according to claim 19 wherein said DAL is implemented via extra embedded control hardware.

21. The program product according to claim 19 wherein said computer readable program code includes computer readable program code for implementing said DAL.

22. The program product according to claim 21 wherein said method further comprises redirecting requests and responses over a link to a remotely attached device.

23. The program product according to claim 22 wherein said method further comprises said DAL causing a program exception by an exception handler.

24. The program product according to claim 23 wherein said method further comprises said DAL causing a program exception by a thin layer device provided in said exception handler.

25. The program product according to claim 23 wherein said method further comprises generating an exception during instruction execution upon accessing a virtual resource unit.

26. The program product according to claim 25 wherein said method further comprises generating an exception upon execution of a privileged instruction.